

WP 05-WH1746

Revision 8

2.5-Ton Jib Crane 41-T-201

Technical Procedure

EFFECTIVE DATE: 07/21/10

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APPROVED FOR USE

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CHANGE HISTORY SUMMARY

Revision Number	Revision Date	Description of Changes
8	07/21/10	<p>Added bullets in the Precautions and Limitations Section to complete Pre-operational checks prior to use.</p> <p>Added a warning in Section 1.0 as a reminder to use proper Personal Protective Equipment (PPE).</p> <p>Added Steps in Sections 1.0 and 2.0 to incorporate the use of the radio controlled pendant.</p> <p>Editorial changes made throughout.</p>

INTRODUCTION

This procedure provides guidance for inspecting and operating the 2.5-Ton Jib Crane, 41-T-201, at the Waste Isolation Pilot Plant (WIPP).

Performance of this procedure generates the following record(s), as applicable:

- Equipment Logbook

REFERENCES

BASELINE DOCUMENTS

- Title 40 CFR §264.15, "General Inspection Requirements"
- DOE Standard 1090-2007, *Hoisting and Rigging*
- *Installation, Operation, and Maintenance Manual*

REFERENCED DOCUMENTS

- WP 04-IM1000, Issues Management Processing of WIPP Forms

PRECAUTIONS AND LIMITATIONS

- Crane must be moved slowly when operating close to limit switches to avoid overrunning them.
- Only personnel qualified as Waste Handling Technician/Engineer (WHT/WHE), or trainees under the direct supervision of a qualified WHT/WHE, are authorized to perform the waste handling activities specified in the procedure.
- During load movements that impair the crane operator's view a spotter shall be utilized.
- If procedure cannot be performed as written or in sequence, WHE shall be contacted.
- Select switch must be positioned for the pendant that will be used for operation.
- Safety glasses, a long-sleeve 100% cotton shirt, and leather gloves must be worn when opening and closing breakers.
- Pre-operational checks must be completed on pendant being used, prior to operation.

- Ensure only one radio controlled pendant, for Jib Crane, is being used at a time.

PREREQUISITE ACTIONS

- 1.0 Review Equipment Logbook for outstanding deficiencies and Action Requests (ARs).
- 2.0 WHE, review Equipment Logbook on a weekly basis, generally the last day of the workweek.

PERFORMANCE

1.0 PREOPERATIONAL CHECKS¹

WARNING

Proper Personal Protective Equipment (PPE), including a long-sleeve 100% cotton shirt, safety glasses, and leather gloves must be worn when operating power supply breaker or disconnect.

- 1.1 Ensure disconnect switch 41-P-SW04/64 for the Jib Crane is **ON**.
- 1.2 Prior to energizing crane, perform the following:

NOTE

Deficiencies that are corrected when discovered may be considered a satisfactory check. Only a qualified rigger shall perform Steps 1.2.1 through 1.2.5.

- 1.2.1 Inspect the following for any damage or wear:
 - Sheaves
 - Wire rope
 - Hook
 - Power/control cables
- 1.2.2 Ensure wire ropes are wound properly on drum.
- 1.2.3 Ensure Jib rotation path is clear of obstructions.
- 1.2.4 Ensure trolley path is clear of obstructions.

- 1.2.5 Verify **NO** leakage of oil/grease from crane mechanisms.

NOTE

Preoperational checks shall be performed with the pendant that will be used during crane operations.

- 1.3 If using radio control pendant, ensure selection switch on the back-up pendant is in auxiliary mode, and **GO TO** Step 1.5.
- 1.4 Using the main pendant, ensure selection switch on the back-up pendant is in main mode, and perform the following:
- 1.4.1 Ensure hoist is **NOT** connected to a load.
 - 1.4.2 Momentarily press START pushbutton.
 - 1.4.3 Verify amber light located on Jib is **ON**.
 - 1.4.4 Lower hoist using **DOWN** button.²
 - 1.4.5 Raise hoist using **UP** control until upper limit switch is engaged.²

NOTE

Steps 1.4.6 through 1.4.9 may be performed in any order.

- 1.4.6 Move trolley in using IN button.
 - 1.4.7 Move trolley out using OUT button.
 - 1.4.8 Rotate Jib left using LEFT button.
 - 1.4.9 Rotate Jib right using RIGHT button.
 - 1.4.10 Proceed to Step 1.7.
- 1.5 Ensure main pendant cord is secured in proper configuration before using radio controlled pendant.
- 1.6 Using the radio controlled pendant, perform the following:
- 1.6.1 Ensure hoist is **NOT** connected to a load.
 - 1.6.2 Ensure E-STOP button is out.
 - 1.6.3 Momentarily push **ON/OFF** button.
 - 1.6.4 Verify amber light located on Jib is **ON**.

- 1.6.5 Lower hoist using DOWN toggle control.
- 1.6.6 Raise hoist using UP control toggle until upper limit switch is engaged.

NOTE

Step 1.6.7 through Step 1.6.10, may be performed in any order.

- 1.6.7 Move trolley IN using REVERSE toggle control.
 - 1.6.8 Move trolley OUT using FORWARD toggle control.
 - 1.6.9 Rotate Jib LEFT using COUNTERCLOCKWISE toggle control.
 - 1.6.10 Rotate Jib RIGHT using CLOCKWISE toggle control.
- 1.7 **IF** Ultra-light lid lift tool is going to be used,
THEN perform the following:
- 1.7.1 Visually inspect the tool for any obvious damage, cracks, or deformation.
 - 1.7.2 Record the tool equipment number in the Equipment Logbook.
- 1.8 Initiate ARs or WIPP Form (WP 04-IM1000) to address any deficiencies that **CANNOT** be corrected by Waste Handling Operations.
- 1.8.1 WH, perform the following:
 - [A] Notify WHE of any deficiencies discovered during preoperational checks, and the status of each (e.g., deficiencies corrected and ARs generated).
 - [B] Notify WHE and report status of preoperational check.
 - 1.8.2 Record the following information in Equipment Logbook:
 - Deficiencies noted
 - Corrective actions taken (outstanding/newly generated ARs, etc.)
 - 1.8.3 Enter time, date, and signature in Equipment Logbook to document performance of preoperational checks.
 - 1.8.4 WHE, review Equipment Logbook weekly, generally the last work day of the week.

2.0 CRANE OPERATION

NOTE

A qualified rigger/spotter shall be used during crane operations.

- 2.1 Lower hoist using main or radio controlled pendant control.
- 2.2 Ensure load is properly rigged or connected.
- 2.3 Slowly raise hoist to take up slack.

CAUTION

Crane operations are to be stopped immediately if any person gives the STOP signal.

- 2.4 **WHEN** qualified rigger/spotter and operator are satisfied that the load is secure,
THEN lift load clear of all obstructions.
 - 2.5 Using appropriate controls, locate load to desired location.
- ## 3.0 CRANE SHUTDOWN
- 3.1 Press **STOP** or **ON/OFF** button.
 - 3.2 Verify amber light located on Jib goes **OFF**.
 - 3.3 Position pendant control out of the way of traffic.